

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A roll (100) for pressure treatment of material bands, with a carrier (3) mounted in a rotationally fixed manner on a machine frame, with a roll shell (4) mounted around the carrier (3), the roll ~~sheet~~ shell (4) being configured so as to rotate around the carrier (3), with at least one pressure chamber (12) between the carrier (3) and the roll shell (4), which chamber is filled at least partly with a supporting liquid which can transmit a hydraulic supporting force from the carrier (3) to the roll shell (4), at least indirectly, wherein in the at least one pressure chamber (12) there is provided an elastic element (18') which unrestrictedly communicates with the liquid constriction-free and is compressible when a liquid pressure required for producing the hydraulic supporting force is exceeded.

Claim 2 (Previously Presented): The roll as claimed in claim 1, wherein the roll comprises at least one leakage chamber (13) for receiving supporting liquid leaving the pressure chamber (12).

Claim 3 (Previously Presented): The roll as claimed in claim 2, wherein at least one elastic element (18) is provided in the at least one leakage chamber (13).

Claim 4 (Previously Presented): The roll as claimed in claim 1, wherein the at least one elastic element (18, 18') comprises a hollow chamber which is, or can be, provided with a compressible medium.

Claim 5 (Previously Presented): The roll as claimed in claim 4, wherein the at least one elastic element (18, 18') is formed as a hose.

Claim 6 (Previously Presented): The roll as claimed in claim 4, wherein the compressible medium is air.

Claim 7 (Previously Presented): The roll as claimed in claim 6, wherein the elastic element (18, 18') is closed and filled with a predetermined pressure.

Claim 8 (Previously Presented): The roll as claimed in claim 7, wherein the elastic element (18, 18') is subjected to air under atmospheric pressure.

Claim 9 (Previously Presented): The roll as claimed in claim 7, wherein the elastic element (18, 18') comprises a one-way valve, by means of which it can be filled with air under a pressure that is lower than the pressure exerted on the hydraulic supporting liquid operation.

Claim 10 (Previously Presented): The roll as claimed in claim 6, wherein the at least one elastic element (18, 18') is connected to a compressed air source (26), by means of which the pressure can be adjusted in such a way that it is always slightly higher than the pressure exerted on the hydraulic supporting liquid.

Claim 11 (Previously Presented): The roll as claimed in claim 5, wherein the elastic elements (18, 18') formed as hoses comprise means for internal support (20).

Claim 12 (Previously Presented): The roll as claimed in claim 10, wherein a means for internal support (20) comprise a spiral coil of an elastically deformable material.

Claim 13 (Previously Presented): The roll as claimed in claim 1, wherein the at least one elastic element (18, 18') is provided in a recess machined into the carrier (3).

Claim 14 (Previously Presented): The roll as claimed in claim 13, wherein the recess has the form of an axially parallel running longitudinal groove (14, 15, 16, 17).

Claim 15 (Previously Presented): The roll as claimed in claim 1, wherein a means for determining the hydraulic pressure exerted on the supporting liquid are provided.

Claim 16 (Previously Presented): The roll as claimed in claim 15, wherein the roll is designed in such a way that the means for determining the hydraulic pressure serve for controlling or regulating a pneumatic pressure to which the at least one elastic element (18, 18') is subjected.

Claim 17 (New): A roll (100) for pressure treatment of material bands, the roll comprising:

- a carrier (3) mounted in a rotationally fixed manner on a machine frame,
- a roll shell (4) mounted around the carrier (3), the roll shell (4) being configured so as to rotate around the carrier (3),
- an annular gap disposed between an inner lateral (7) surface of the roll shell (4) and an outer lateral surface (8) of the carrier (3),
- two mutually opposite longitudinal sealing arrangements (10, 11) configured to divide the annular gap (9) into at least one pressure chamber (12) and at least one leakage chamber (13), the at least one pressure chamber (12) being filled at least partly with a supporting liquid which can transmit a hydraulic supporting force from the carrier (3) to the roll shell (4), at least indirectly, and
- an elastic element disposed in the at least one pressure chamber (12), the elastic element (18') being configured so as to 18' unrestrictedly communicate with the liquid constriction-free and to be compressible when a liquid pressure required for producing the hydraulic supporting force is exceeded.

Claim 18 (Currently Amended): A roll (100) for pressure treatment of material bands, the roll comprising:

a carrier (3) mounted in a rotationally fixed manner on a machine frame,

a roll shell (4) mounted around the carrier (3), the roll shell (4) being configured so as to rotate around the carrier (3),

an annular gap disposed between an inner lateral (7) surface of the roll shell (4) and an outer lateral surface (8) of the carrier (3),

two mutually opposite longitudinal sealing arrangements (10, 11) configured to divide the annular gap (9) into at least one pressure chamber (12) and at least one leakage chamber (13), the at least one pressure chamber (12) being filled at least partly with a supporting liquid which can transmit a hydraulic supporting force from the carrier (3) to the roll shell (4), at least indirectly, and

at least one elastic element disposed in the at least one pressure chamber (12) and in the at least one leakage chamber (13), the elastic element (18') being configured so as to 18' unrestrictedly communicate with the liquid constriction-free and to be compressible when a liquid pressure required for producing the hydraulic supporting force is exceeded.